

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Virginia DOT (VDOT)_____.

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

Transportation Pooled Fund Program Project # <i>(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i> TPF-5(268)		Transportation Pooled Fund Program - Report Period: <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input checked="" type="checkbox"/> Quarter 4 (October 1 – December 31)	
Project Title: <h3 style="margin: 0;">National Sustainable Pavement Consortium</h3>			
Name of Project Manager(s): Kevin Kenneth McGhee		Phone Number: (434) 293-1956	
Lead Agency Project ID: VCTIR 103567		Other Project ID (i.e., contract #): 448679	
Original Project End Date: 6/30/2018		Current Project End Date: 6/30/2018	
E-Mail Kevin.McGhee@VDOT.Virginia.gov		Project Start Date: 7/1/2012	
Number of Extensions: 0			

Project schedule status:

- On schedule
 On revised schedule
 Ahead of schedule
 Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
\$225,036 *	\$151,280	67%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$23,033 (10%)	\$23,003	67%

* Received; total committed = \$500,000

Project Description:

Through a regional pooled fund, this program of research focuses on enhancing pavement sustainability. The initial project scope covers:

- ✓ Examine emerging sustainable materials, technologies, products and pavement systems, how to facilitate their adoption, and what testing approaches and methods are needed to implement these technological improvements.
- ✓ Identify an appropriate set of metrics that comprises all aspects of pavement sustainability and the adaptation or development of tools designed to assess pavement sustainability on qualitative and quantitative scales.
- ✓ Examine how sustainability considerations will affect all aspects of pavement engineering and management such as planning, design, construction, maintenance, management, and reclamation and develop guidelines for integration of these tools into pavement/ asset management business processes.
- ✓ Investigate the effect of climatic change on regional pavement engineering in terms of design, construction, maintenance, and management.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

- Revised the paper “Probabilistic lifecycle assessment as a network-level pavement evaluation tool for the use and maintenance phases of pavements,” which has been recommended for presentation at the 93rd *Transportation Research Board Annual Meeting* and publication in the *Journal of the Transportation Research Board*.
- Completed a paper documenting the project-level life cycle assessment, “A life cycle assessment of in-place recycling and conventional pavement construction and maintenance practices:”
 - Evaluated the environmental impacts over a 50 year project period for an *in-situ* pavement recycling project on Interstate 81 in Virginia.
 - Compared the results to an LCA conducted over the same time frame for two other common maintenance strategies to determine any environmental benefits gained from the *in-situ* recycling.
- Submitted a paper to the 12th *Conference of the International Society of Asphalt Pavements (ISAP)* on “Analysis of rolling resistance models to analyze vehicle fuel consumption as a function of pavement properties:”
 - Presented results from the literature review phase of this project.
 - Analyzed the sensitivity of the two commonly cited rolling resistance models developed within the last few years.
- Developed a workshop agenda for a short training on recycling in response to a request from WI DOT.
- Initiated a case study on cold in-place recycling on a local roads in Christiansburg Virginia.
- Began work on a paper detailing a network-level decision analysis technique for including the environmental impacts into pavement management decision making.
 - Paper follows results from the TRB paper detailed in previous progress report and presents the decision space and tradeoffs when considering energy consumption reduction as an objective.

Anticipated work next quarter:

- Finalize a problem statement for a third project on pavement type selection and seek feedback from the TAC.
- Present the paper mentioned above at the 93rd *Transportation Research Board Annual Meeting*.
- Continue to work on documenting the cold in-place recycling project in Christiansburg Virginia.
- Finish the paper detailing a network-level decision analysis technique for including the environmental impacts into pavement management decision making.

Significant Results:

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).

No problems were encountered in this quarter.

Potential Implementation: